We Claim

1. A fluid ejection device which comprises

a substrate;

nozzle chamber walls arranged on the substrate and defining a plurality of nozzle chambers, the substrate defining a plurality of fluid inlet channels in fluid communication with the nozzle chambers to supply fluid to the nozzle chambers;

drive circuitry arranged on the substrate; and

a plurality of micro-electromechanical devices positioned on the substrate, each device comprising:

an elongate actuator having a fixed end that is fast with the substrate so that the actuator is connected to the drive circuitry and a working end that is displaceable along a path relative to the substrate to perform work, the actuator including a pair of elongate arms that are spaced relative to each other along the path and are connected to each other at each end, with one of the arms being connected to the drive circuitry to define a heating circuit and being of a material that is capable of expansion when heated, such that, when the heating circuit receives an electrical signal from the drive circuitry, that arm expands relative to the other to deform the actuator and thus displace said working end along said path; and

a fluid displacement member that is fixed to the working end of the elongate actuator and is positioned in a respective nozzle chamber so that displacement of the working end and thus the fluid displacement member results in the ejection of fluid from the nozzle chamber.

2. A fluid ejection device as claimed in claim 1, in which the nozzle chamber walls include roof walls that define fluid ejection ports, each fluid displacement member being displaceable towards and away from a respective fluid ejection port to eject fluid from that ejection port.

3. A fluid ejection device as claimed in claim 1, in which each nozzle chamber wall defines an opening to accommodate a respective actuator, the nozzle chamber wall and the

actuator being configured so that, when the nozzle chamber is filled with fluid, surface tension effects of the fluid establish a fluidic seal between the actuator and the nozzle chamber wall.

4. A fluid ejection device as claimed in claim 3, in which the substrate defines a recess about each nozzle chamber wall to inhibit wicking of fluid across the substrate.

5. A fluid ejection device as claimed in claim 3, in which each fluid displacement member is in the form of a paddle member that spans a region between the respective nozzle chamber and the respective fluid inlet channel so that, when the heating circuit receives a signal from the drive circuitry, the paddle member is driven towards the fluid ejection port and fluid is drawn into the respective nozzle chamber.

6. A fluid ejection device as claimed in claim 5, in which each paddle member has a projecting formation positioned on a periphery of the paddle member, the formation projecting towards the ejection port so that the efficacy of the paddle member can be maintained while inhibiting contact between the paddle member and a meniscus forming across the ejection port.

7. A fluid ejection device as claimed in claim 1, in which each actuator includes a heat sink that is positioned on the arm that defines the heating circuit, intermediate ends of that arm, to provide generally uniform heating along the length of the arm.

8. A fluid ejection device as claimed in claim 1, in which each actuator includes at least one strut that is fast with each arm at a position intermediate ends of the arms.